

Pest Risk Analysis procedures and Modalities for Effective Quarantine Measures

By

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Outline of Presentation

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3. Modalities for effective quarantine measures
4. Pests Risk Analysis (PRA) Procedures
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Introduction

- ***Effective quarantine measures*** refers to the set of procedures that have been defined under the International Plant Protection Convention (IPPC)
- IPPC is a plant health agreement between nations that aims to protect cultivated and wild plants by preventing the introduction and spread of pests.

Introduction Con't

Composition of IPPC

- There are 177 member nations (contracting parties) who are signatories to the Convention
- Each contracting party has a National Plant Protection Organization and an Official IPPC contact Point
- 10 regional Plant Protection Organization have been established to coordinate NPPOs on regional level
- IPPC liaise with relevant international organizations to help build regional and national capacities
- The secretariat is located within the Food and Agriculture Organization of the United Nations

Objective

- To make participants aware of the requirements for effective quarantine (phytosanitary) measures with emphasis on Pests risk Analysis.

Modalities for effective quarantine measures

Modalities for effective quarantine measures

- The modalities for the protection of plants and the application of phytosanitary measures in international trade are based on two main principles
- These are the ***Basic Principles*** and the ***Operational Principles*** (ISPM 1: 2006)
- The principles relate to the protection of cultivated and non-cultivated/unmanaged plants, wild flora and aquatic plants and the application of phytosanitary measures to the international movement of people, commodities and conveyances

Basic Phytosanitary principles for effective quarantine measures

- Sovereignty
- Necessity
- Managed risk
- Minimal impact
- Transparency
- Harmonization
- Non-discrimination
- Technical justification
- Cooperation
- Equivalence of phytosanitary measures and modification

(ISPM 1: 2006)

Sovereignty

Contracting parties have sovereign authority to:

- Prescribe and adopt phytosanitary measures to protect plant health within their territories
- Determine the appropriate level of protection for plant health to minimize interference with international trade
- Regulate the entry of plants and plant products and other regulated articles

Sovereignty Con't

- Prescribe and adopt phytosanitary measures concerning the importation of plants, plant products and other regulated articles e.g. inspection, prohibition on importation, and treatment
- Refuse entry , detain, treatment or destruction of consignments which do not comply with the phytosanitary measures

Sovereignty Con't

- Prohibit or restrict the movement of regulated pests into their territories;
- Prohibit or restrict the movement of biological control agents and other organisms of phytosanitary concern claimed to be beneficial into their territories

Operational Phytosanitary Principles for effective quarantine measures

- Pest Risk Analysis
- Pest listing
- Recognition of pest free areas and areas of low pest prevalence
- Official control for regulated pests
- Systems approach
- Surveillance
- Pest reporting
- Phytosanitary certification
- Phytosanitary integrity and security of consignments
- Prompt action
- Emergency measures
- Provision of a national plant protection organization (NPPO)
- Dispute settlement
- Avoidance of undue delays
- Notification of non-compliance
- Information exchange
- Technical assistance

Pest Risk Analysis

Pest Risk Analysis (PRA)

- **Pest Risk Analysis (agreed interpretation):**
The process of evaluating biological or other scientific and economic evidence to determine whether an organism is a pest, whether it should be regulated, and the strength of any phytosanitary measures to be taken against it.

(ISPM 5: 2012)

International Standards on PRA

- **ISPM 02:2007** Framework for pest risk analysis (originally adopted in 1995, revised in 2007)
- **ISPM 11:2004** Pest risk analysis for quarantine pests, including analysis of environmental risks and living modified organisms (originally adopted in 2001, with supplements integrated in 2003 and 2004)
- **ISPM 21:2004** Pest risk analysis for regulated non-quarantine pests

Objectives of PRA

For any specified country or area, the objectives of a PRA are:

- to identify **pests** and/or **pathways** of quarantine concern and evaluate their **risk**
- to identify endangered areas and, if appropriate, to identify risk management options.
- To make decision to review or revise phytosanitary measures or **policies**

The PRA structure

- The PRA processes consist of three stages:
 - Stage 1: Initiation
 - Stage 2: Pest risk assessment
 - Stage 3: Pest risk management.
- Information gathering, documentation and risk communication are carried out throughout the PRA process
- PRA can be conducted using either qualitative method or quantitative method.

PRA processes: Stage 1

Initiating the process involves identifying :

- **Pest(s)** (Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants or plant products) and
- **Pathways** (any means that allows the entry or spread of a pest) that are of quarantine concern and should be considered for risk analysis in relation to the identified PRA area.

Pathway initiated PRA

A new or revised PRA for a specific pathway may arise in following situations :

- import of a commodity not previously imported or a commodity from a new area of origin
- an intention to import for selection and/or scientific research a plant species or cultivar not yet introduced that could potentially be a host of pests
- a pathway other than commodity import is identified (natural spread, packing material, mail, garbage, compost, passenger baggage, etc.)

Pathway initiated PRA Con't

- a change in susceptibility of a plant to a pest is identified
- a change in virulence/aggressiveness or host range of a pest

Pest initiated PRA

The need for a new or revised PRA on a specific recognized pest may arise when

- an infestation /outbreak of a new pest is discovered
- a new pest is identified by scientific research
- a pest is reported to be more injurious than previously known
- an organism is identified as a vector for other recognized pests
- there is a change in the status or incidence of a pest in the PRA area

Pest initiated PRA Con't

- a new pest is intercepted on an imported commodity
- a pest is repeatedly intercepted at import
- a pest is proposed to be imported for research or other purpose

Policies initiated PRA

The need for a new or revised PRA may arise from situations such as when

- a national review of phytosanitary regulations, requirements or operations is undertaken
- an official control programme (e.g. a certification programme encompassing phytosanitary elements) is developed to avoid unacceptable economic impact of specified RNQPs in plants for planting
- an evaluation of a regulatory proposal of another country or international organization is undertaken

Policies initiated PRA Con't

- a new system, process or procedure is introduced or new information made available that could influence a previous decision (e.g. results of monitoring; a new treatment or withdrawal of a treatment; new diagnostic methods)
- an international dispute on phytosanitary measures arises
- the phytosanitary situation in a country changes or political boundaries change

Previous PRA

- A check should also be made as to whether pathways, pests or policies have already been subjected to the PRA process, either nationally or internationally. If a PRA exists, its validity should be checked as circumstances and information may have changed. The possibility of using a PRA from a similar pathway or pest, that may partly or entirely replace the need for a new PRA, should also be investigated

Conclusion of initiation

At the end of the initiation point (Stage 1):

- The pests and pathways of concern and the PRA area will have been identified.
- Relevant information has been collected and pests have been identified as possible candidates for phytosanitary measures, either individually or in association with a pathway.

PRA processes: Stage 2

Risk assessment

The process for pest risk assessment can be broadly divided into three interrelated steps:

- pest categorization
- assessment of the probability of introduction and spread
- assessment of potential economic consequences (including environmental impacts).

Risk assessment Con't

- Risk assessment begins with the categorization of individual pests to determine whether the criteria for a quarantine pest **(i.e. a pest of potential economic importance to the area endangered thereby and not yet present there, or present but not widely distributed and being officially controlled)** are satisfied.
- Risk assessment continues with an evaluation of the probability of pest entry, establishment, and spread, and of their potential economic consequences.

Pest categorization

- At the outset, it may not be clear which pest(s) identified in Stage 1 require a PRA. The categorization process examines for each pest whether the criteria in the definition for a quarantine pest are satisfied.

Elements of categorization

The categorization of a pest as a quarantine pest includes the following primary elements:

- identity of the pest
- presence or absence in the PRA area
- regulatory status
- potential for establishment and spread in PRA area
- potential for economic consequences (including environmental consequences) in the PRA area.

Conclusion of pest categorization

- If it is determined that the pest has the potential to be a quarantine pest, the PRA process should continue.
- If a pest does not fulfill all of the criteria for a quarantine pest, the PRA process for that pest may stop
- In the absence of sufficient information, the uncertainties should be identified and the PRA process should continue.

Assessment of the probability of introduction and spread

- Pest introduction consists of both entry and establishment.
- Assessing the probability of introduction requires an analysis of each of the pathways with which a pest may be associated from its origin to its establishment in the PRA area.

Probability of entry of a pest

Depends on :

- the pathways from the exporting country to the destination
- and the frequency and quantity of pests associated with them.
- The higher the number of pathways, the greater the probability of the pest entering the PRA area.

Probability of entry of a pest Con't

probability of entry depends on :

- the pest being associated with the pathway at origin
- survival during transport or storage
- pest surviving existing pest management procedures
- transfer to a suitable host
- establishment and
- availability of suitable hosts, alternate hosts and vectors in the PRA area

Conclusion of the pest risk assessment stage

- the pest risk assessment would identify all or some of the categorized pests which may be considered appropriate for pest risk management.
- For each pest, all or part of the PRA area may be identified as an endangered area
- A quantitative or qualitative estimate of the probability of introduction of a pest or pests, and a corresponding estimate of economic consequences and environmental consequences are obtained and documented and utilized in the pest risk management stage of the PRA

PRA processes: Stage 3

Risk Management

- The conclusions from pest risk assessment are used to decide whether risk management is required and the strength of measures to be used
- Risk management involves identifying management options for reducing the risks identified at Stage 2.
- These are evaluated for efficacy, feasibility and impact in order to select those that are appropriate.

Risk Management Con't

Risk Management Options include:

- Preventing or reducing infestation in the crop
- Ensuring that the area, place or site of production or crop is free from the pest
- Prohibition of commodities If no satisfactory measure to reduce risk to an acceptable level can be found
- Phytosanitary certificates and other compliance measures and
- Other options within the importing country

Conclusion on pest risk management

The result of the pest risk management procedure will be :

- either no measures are identified which are considered appropriate
- or the selection of one or more management options that have been found to lower the risk associated with the pest(s) to an acceptable level.
- These management options form the basis of phytosanitary regulations or requirements.

Conclusion

- International Standards for Phytosanitary Measures provide adequate guidance for preventing the introduction and spread of plant pests
- Contracting parties are therefore encouraged to apply these phytosanitary measures to promote harmonized scientific and justified procedures to enhance international trade in plants and plant products.

- Thank You